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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,383	05/10/2001	Hiroshi Mori	AD6588 US CNT	5612

23906 7590 03/16/2004

E I DU PONT DE NEMOURS AND COMPANY  
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WILMINGTON, DE 19805

EXAMINER
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RAJGURU, UMAKANT K

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 03/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/852,383

**Applicant(s)**

MORI ET AL.

**Examiner**

Umakant K. Rajguru

**Art Unit**

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9,28,32,33 and 39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 28, 32, 33 & 39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1. An RCE has been filed on September 26, 2003
2. Claims being examined are 1-9, 28, 32, 33 and 39.
3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1 and 32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 as now amended, encompasses a negative limitation, with respect to additive (ii). This limitation has no support in the specification.

Same is the case with claim 32.

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1, 6, 7, 28, 32 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbs (US 3406223) in view of Minagawa et al (US 4798836).

(these references have been cited in earlier Office action).

Gibbs discloses stabilized polyoxymethylenes, which are stabilized by mixing a polyoxymethylene with a superpolyamide, a phenolic antioxidant and one or more

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substituted aliphatic amines (col. 1 line 71 to col. 2, line 3). Suitable amines are shown in col. 2, 43-67 and they read on the instantly claimed ones (of instant claim 4).

Gibbs does not mention the pkb value in the range of 2-8 of the amino compound (instant claims 1 & 2), relationship of boiling point of amino compound and melting point of polyacetal (instant claims 3) and an organic cyclic compound (instant claim 8) and succinimide.

Minagawa discloses diimides as light stabilizers for polymers, one of them being polyacetal (col. 11, line 43). Succinimide is a preferred stabilizer (col. 4 lines 10-30).

It would therefore have been obvious to use a succinimide as a stabilizer in the polyoxymethylenes of Gibbs because succinimides are less extractable by water and thereby offer better stabilization.

7. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbs et al (US 3406233) in view of Minagawa et al (US 4798836) applied to claim 1 above, and further in view of Fukumoto et al (US 5603927).

Gibbs and Minagawa together fail to disclose pkb value of the amino compound (instant claim 2) and specific amino compound (instant claim 4).

Fukumoto discloses a material for removing offensive odors, such as those of odors of aldehydes (col. 6, line 1-3). One suitable material is ethyl p-aminobenzoate (col. 9, lines 13-14). Patentee prefers a material having a basicity constant pkb of 9.4 or more (col. 4 lines 32-33).

Therefore it would have been obvious to use ethyl p-amino benzoate (of Fukumoto) as amino compound of choice in the composition of Gibbs. It is true that

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Fukumoto discloses a pkb value of 9.4 or more which is more than "4-8" as claimed in instant claim 2. Examiner is of the opinion that one of ordinary skill in the art would obviously (vary this range and) lower it to the claimed one to obtain a desired product. Additionally even though prior art does not mention limitations (of Tbp and Tm) of instant claim 3, the prior art composition obviously satisfies those limitations.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbs et al (US 3406223) in view of Fukumoto et al (US 60392).

Disclosure of Gibbs & Fukumoto are presented earlier. Gibbs does not mention ethyl p-aminobenzoate and pkb value. Fukumoto does ~~not~~ mention both.

Hence it would have been obvious to use the ethyl p-aminobenzoate as an amino compound of choice in the composition of Gibbs.

9. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbs et al (US 3406223) in view of Fukumoto et al (US 5603927) as applied to claim 1 above, and further in view of Shinohara et al (US 5866671).

Gibbs and Fukumoto together fail to mention organic cyclic compound of instant claim 8.

Shinohara discloses a resin composition for use in applications requiring low formaldehyde concentration levels. It comprises a polyacetal polymer (abstract) and an organic cyclic compound with active imino groups (col. 3 lines 43-60). Few additives like lubricant, antioxidant etc. can be added to this composition (col. 4., line 24 to col. 6, line 56). Molded parts may be formed from this composition (col. 6, lines 57-62). Organic compound is added at 0.05 to 3.0% wt (col. 10, lines 31-33).

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*MR* Therefore it would have been obvious to add the organic compound of **S**hinohara to the composition of Gibbs to further decrease the concentration of formaldehyde and also to add an additive to enhance mechanical properties, like impact strength.

10. Claim 33 rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbs et al (US 3406723) in view of Minagawa et al (US 4798836) as applied to claim 32 above, and further in view of Fukumoto et al (US 5603927).

Please see item 7 above for this rejection.

11. It is noted that the prior art discloses a composition, which contains some ingredients as those that are claimed and in amounts that are similar to those that are claimed. Therefore it is reasonable to infer that the composition of prior art obvious satisfies all claimed limitations even if those limitations may not be expressly spelled out in the prior art.

12. Applicants argue (on page 6) that Gibbs does not disclose exactly the claimed pkb value. As mentioned earlier this limitation is different in instant claims but still it is not patentably distinguishable from the one cited by Gibbs.

Applicants' next argument (on page 6) that amino salt of Fukumoto is not capable of binding formaldehyde is not acceptable since Fukumoto teaches ethyl

*MR* p-amin<sup>o</sup>benozoate is which is claimed by the applicants as being suitable for binding formaldehyde.

Applicants' comments about Shinohara (on page 7) are not proper since Shinohara is a secondary reference, relied upon for its disclosure of cyclic organic compound.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to U. K. Rajguru, whose telephone number is (571) 272-1077. The examiner can normally be reached on Monday-Friday from 9:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.



U. K. Rajguru/af  
February 27, 2004



James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1711